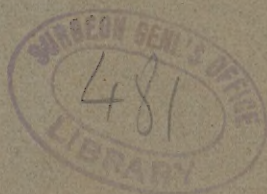


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On the Choice of Operation
for the Removal of Stone
from the Bladder.

By L. BOLTON BANGS, M. D.



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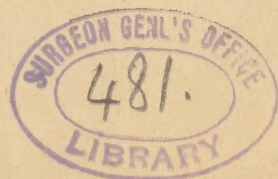
SURGEON ST. LUKE'S AND CHARITY HOSPITALS.

Within the past few years the operation of Suprapubic Lithotomy has become so popular in the minds of surgeons and has met with such remarkable success, that for the present at least, the question may be narrowed between it and some form of Lithotrity.

The older methods of Perineal Lithotomy, median or lateral, seem to be almost entirely discarded excepting in the case of children. My own personal experience in this operation has been exclusively limited to children. Therefore in stating my own views I mean by the term Lithotomy, Suprapubic Lithotomy; all others being left out of consideration.

The Perineal Lithotrity of Dolbeau being extremely limited in its application and not having gained much of a footing in this country, I shall speak of *Lithotrity* only in two forms, one being the application of a crushing instrument to a small stone in an easily accessible bladder, the other form being that which is known by the term Litholapaxy; namely, repeated crushings at one sitting with as many evacuative pumpings till the entire stone is removed; the patient being under the influence of an anæsthetic.

The first of these is applicable to only a very limited number of cases, where, for instance, the stone is of recent formation or where it has but recently descended from the kidney, and having been retained in the bladder, is exercising an irritation upon that viscus. In such cases one application of the instrument either with or without an anæsthetic will usually crush the stone thoroughly and the few small fragments may either be removed by evacuating instruments at once or left to be expelled by nature's way. The second form, or Litholapaxy



of Bigelow, being the one applicable to the vast majority of Bladder calculi, I will venture to limit my share of the discussion to the indications for choosing between *it* and *Suprapubic Lithotomy*. The object of an operation is not only to remove from the body the cause, or active agent of suffering, but to do it safely and quickly without adding to the jeopardy of the patient; and also to place the patient in a state, which shall conserve his future health and well-being. Hence a given case must be approached without any prejudice in favor of one operation or another and the conditions under which the operation is to be undertaken must govern very largely the choice.

The age of the patient, his or her vigor, the conditions of the kidneys, bladder and prostate (if a male) must all be considered in turn. The relative mortality also of the two operations must be borne in mind. For, whereas at present we have a mortality in Litholapaxy of less than 2 per cent., in Suprapubic Cystotomy (for all purposes) it is, according to the latest statistics, in the neighborhood of 5 per cent. Furthermore, the liability to relapse after Litholapaxy especially in old men with atonic and catarrhal bladders associated with hypertrophied prostate, must also be taken into account.

In order to be more definite and to make clear the reasoning upon which the choice of operation should be based permit me to narrate briefly typical cases.

A man of about fifty years of age presents himself with the characteristic symptoms of stone in the bladder; namely, frequent and painful urination, with a varying amount of mucopus, and occasionally blood in the urine, the latter feebly acid in reaction; pain in the bladder, increased by vigorous locomotion or by jolting.

Upon examination, the bladder is found to be easily accessible to instruments, and a stone of medium size is ascertained to be within it. His general condition is good, and there is no evidence in the urine of any serious condition of the kidneys. There is no evidence of any prostatic hypertrophy, nor is there from the history any evidence of prolonged catarrhal inflammation of the bladder. With such a typical case it seems to me that an unhesitating decision should be given in favor of the crushing operation or litholapaxy.

Again, a man with the following history. He is fifty-six years of age, has had for several years a history of urinary disorder, *i. e.*, frequent, painful and bloody urination, the pain and frequency modified somewhat by intercurrent conditions of health, but of late his symptoms have been increasing in intensity to such a degree that he now seeks surgical aid.

On examination it is found that there is some difficulty in entering the searcher; that the depression of the handle of the latter, together with the presence in the bladder of two or three ounces of residual urine containing pus in moderate degree, indicates median hypertrophy of the prostate. Exploration of the bladder with the cystoscope, which can be readily done, shows that although the organ is trabeculated and has lost the glistening character of its mucous membrane, it is not sacculated or otherwise seriously affected organically and that there is but one stone within it. Moreover, examination of the urine, which is of a specific gravity of 1020-1022, reveals only moderate evidence of disease of the kidneys; *i. e.*, besides a small percentage of albumin, an occasional granular cast. His general condition is excellent and although he has been a sufferer from his bladder for several years he has not yet had much impairment of his vigor. Under these conditions I would again advise the operation of litholapaxy.

Take another case, in order to illustrate more definitely my proposition. A man aged seventy-two. Although several years older than the preceding patient his conditions are somewhat similar; *i. e.*, a moderate amount of prostatic hypertrophy, an uncomplicated bladder wall, and only a slight amount of evidence of degeneration of the kidneys. His bladder is easily reached by instruments, and is apparently accessible in all its parts. Moreover, there is but one stone present in the bladder and it is of a little larger size than the medium. In such a case I would also recommend the operation of litholapaxy.

With these three cases of different ages may be contrasted a case of a man aged only forty-five, in whom the following conditions are present:

There is no hypertrophy of the prostate, but there is an exceedingly sensitive and hyperæmic urethra and an exceedingly sensitive bladder, compelling him to urinate at frequent intervals.

Any instrument, no matter how gently introduced, is grasped by convulsive contractions of the bladder, and a stone is found at the first searching; but all subsequent searchings fail to reveal any. There is no evidence of disease of the kidneys, but there is evidence of marked catarrhal condition of the bladder, which, associated with this convulsive muscular contraction, makes it strongly evident that besides the removal of the stone physiological rest must be secured for the viscus.

In this case accordingly I did a supra-pubic cystotomy and removed a stone which had been caught behind the pubes by this undue and irregular contraction of the bladder. Subsequent drainage, continued for a week or two, restored this individual to permanent health.

In this case, although the age and general conditions of the individual pointed to the simpler operation of litholapaxy, yet the bladder conditions were such that I felt compelled to choose the operation of lithotomy. Here, then, may be seen some of the specific conditions which render the choice of operation difficult, but which was finally decided by the condition I have quoted.

Now, in further illustration of the indications for choice, take another type of cases:

A man aged sixty-two who has had for several years pains over the pubes following each act of urination, pain felt at the head of the penis, reflex pains at different parts of his body and whose sufferings have become excruciating. Although a temperate man of good constitution and of excellent clinical history, he is losing ground rapidly and his vigor is being wasted by continual suffering. The introduction of a searcher into his bladder is attended with difficulty; not only a median but lateral hypertrophy of the prostate is found, and there are evidences in his urine of considerable degeneration of the kidneys.

In my opinion, although the lithotrite can be entered, the stone or stones seized and crushed and the evacuating instrument entered also, it is better, in view of the prostatic obstruction and the condition of bladder and kidneys, to do the speedy operation of supra-pubic lithotomy. This will not only be less likely to do damage to his already inflamed and softened bladder, but will give him the advantage of drainage for the relief of that inflamed organ.

In such a case my choice would be determined by the gravity of the bladder condition; because, although the stone might be easily crushed and removed, there would be a strong liability to relapse, even if only a small fragment happened to be left behind. The cleaner and quicker the operation in such cases the better, and certainly in this respect the lithotomy is more desirable. I will admit that sometimes—although the symptoms of the patient seem to warrant the opinion that the bladder is uncomplicated, that but one or two stones of moderate size are present, and that all the indications point to litholapaxy—when we come to the operation itself this may be found to be of greater gravity than we had supposed. It has been my own experience in operating upon a patient aged seventy-four, upon whom a year previously the operation of litholapaxy had been done by a competent surgeon, to find within the bladder three large fragments left there after the previous operation, and in addition to find upon close inspection of the wall of the bladder a diverticulum or cyst in which was also a stone.

In another case, recently reported by me, I began with the operation of litholapaxy, but was obliged to convert it into a supra-pubic lithotomy, because a large fragment of stone jammed the prostate across the urethra, thus preventing the introduction of instruments.

In the one case I profited by the experience of a colleague, and in the other the cause of my misfortune was not cleared up until the bladder was opened. In each of these cases perhaps more careful antecedent exploration might have rendered the choice of operation more definite, and that choice would unquestionably have been the lithotomy.

The use of the cystoscope in such cases would in all probability have rendered the choice more definite. Therefore it seems to me that if any uncertainty as to the character of the bladder, *i. e.*, whether its walls are cystic or not, or whether the prostate presents any difficulties, remains in the mind of the operator and which cannot be cleared up by the cystoscope, the operation, which not only permits the removal of the stone, but affords a means of inspection of the interior of the bladder, should be the one chosen.

Another factor in making a choice should not be overlooked, and this is the manipulative skill of the operator.

Mr. Reginald Harrison, in comparing the supra-pubic and lateral operations, says: "There can be no doubt that the former proceeding will recommend itself to many practitioners on the ground that it is the simpler of the two, and if for this reason it is the more efficiently executed, no better ground can be advanced for its selection, provided that the same end can be obtained."

The same argument may be applied to the choice between the prolonged crushing operation of litholapaxy, which implies a certain amount of manipulative skill on the part of the operator, and in favor of the supra-pubic lithotomy, whose technique is very simple, and in these days of widespread knowledge of antiseptics is comparatively a safe surgical procedure.

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